Peloton's Level 4 connection could turn page for trucking industry

July 18 2019, by Nancy Cohen

Credit: CC0 Public Domain

A Mountain View, California, company has a vision of driver assistive truck platooning as a potential change maker for the trucking industry—in a good way, namely, carrying with it safety and fuel

efficiency.

Platooning is an emerging [vehicle technology](#), said *Trucks.com*, where digitally tethered convoys of two or more trucks travel closely together to reduce drag and increase fuel [efficiency](#).

Peloton Technology is in the news for unveiling its advanced product called Level 4 Automated Following and it is being tested on closed tracks.

This is an "advanced platooning system" where a single driver can drive a pair of vehicles. Automated Following systems involve V2V communications.

TechCrunch paints the picture:

"With the new Automated Following system, a human driver is in the lead truck. But this time, the follow truck won't have a human driver. The system combines vehicle-to-vehicle communication with radar-based active braking and software. Together, the human driver in the lead vehicle is able to guide the steering, [acceleration](#) and braking of the follow truck and connects the safety systems between the trucks with minimal latency, according to Peloton Technology."

Tekla Perry in *IEEE Spectrum* likewise sketched in the scenario or which the Level 4 solution was designed.. "In the front truck, the driver drives normally. Whenever he adjusts his foot on the throttle, touches the brakes, or [maneuvers](#) the steering wheel, digital details describing that action are wirelessly transmitted to the computer in the following truck. Using that information, along with data gathered from its own collection of radars, cameras, and other sensors, the second truck can safely trail close behind the first, forming a single-driver platoon."

Chris Davies in *SlashGear* noted that while the system was Level 4, it still had a human driver in the lead followed by a driverless truck, "linked by the direct V2V connection with minimal latency, and following it closely."

What does L4 mean? L stands for level and in this context level of self-driving autonomy. *Pocket-lint* had a useful primer by Max Langridge.

The SAE International (Society of Automotive Engineers) published the classification system for different levels in 2014, 2016 and 2018. Each level is classified by how much a driver is required to intervene and how attentive they need to be behind the wheel of an autonomous vehicle.

Langridge on Level 4: "Level 4 cars are referred to as 'mind-off', because they're so capable that the driver isn't required to intervene at all...However, there are some restrictions, as the full self-driving mode can only be activated in certain, geofenced areas or in traffic jams. If the car isn't in a specified area or in a traffic jam, then it must be able to get itself to safety if the driver isn't able to take control in an emergency."

Interestingly, technical change could translate into improvements for truck drivers in compensation and job value. The connected driving concept carries influence toward a "better quality of life through expanding hub-to-hub and relay-style operations that allow drivers to be home with their families every night," CEO Josh Switkes said .

Switkes said the new system can double the efficiency of a single driver, who will eventually be able to command premium pay and status for mastering this new transportation skill. Drivers who learn and qualify to use Automated Following will be recognized for their skills, able to offer fleets the ability to expand operations, create additional capacity while being more cost effective.

"The professional driver is at the heart of the new Peloton L4 Automated Following solution much like they are with our L1 commercial system, PlatoonPro. We continue to leverage drivers for their skills, experience, and intuition, and engage with both Peloton test drivers as well as fleet drivers in all aspects of product design, development, and testing."

The vision with the new L4 Automated Following product is to commercially deploy a solution that will enable drivers to benefit from the ongoing commercial driver shortage by doubling the amount of freight they can [haul](link) in a single trip.

Drivers could in turn see better schedules and compensation, as well as "better quality of life through expanding hub-to-hub and relay-style operations that allow drivers to be home with their families every night."

Switkes sees the drivers as "the world's best sensors, and we are leveraging this to enable today's drivers to be more productive through automated following platoons."

Also, electronically coupling the trucks has an edge on safety, as they accelerate and brake together and can safely operate at closer distances to form a platoon.

Perry said the new L4 automatic following system was "not yet street legal" and being tested on closed tracks. Davies in *SlashGear* added that a commercial launch was "some way out."

© 2019 Science X Network